

From the
INTERNATIONAL SEARCHING AUTHORITY

To:

see form PCT/ISA/220

PCT

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY
(PCT Rule 43bis.1)

Date of mailing
(day/month/year) see form PCT/ISA/210 (second sheet)

Applicant's or agent's file reference
see form PCT/ISA/220

FOR FURTHER ACTION
See paragraph 2 below

International application No.
PCT/US2005/031688

International filing date (day/month/year)
02.09.2005

Priority date (day/month/year)
07.09.2004

International Patent Classification (IPC) or both national classification and IPC
F16D41/08, F16D41/06

Applicant
TIMKEN US CORPORATION

1. This opinion contains indications relating to the following items:

- ☒ Box No. I Basis of the opinion
- ☐ Box No. II Priority
- ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☐ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☒ Box No. VI Certain documents cited
- ☐ Box No. VII Certain defects in the international application
- ☐ Box No. VIII Certain observations on the international application

2. **FURTHER ACTION**

If a demand for international preliminary examination is made, this opinion will usually be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA"). However, this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of three months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

3. For further details, see notes to Form PCT/ISA/220.

Due: 7-7-06

DOCKETED

Date: 12-9-05 CB

Also on RLK's docket

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**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY**International application No.
PCT/US2005/031688**IAP20** Rec'd PCT/US 01 FEB 2006**Box No. I Basis of the opinion**

1. With regard to the **language**, this opinion has been established on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.
 - ☐ This opinion has been established on the basis of a translation from the original language into the following language , which is the language of a translation furnished for the purposes of international search (under Rules 12.3 and 23.1(b)).
2. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:
 - a. type of material:
 - ☐ a sequence listing
 - ☐ table(s) related to the sequence listing
 - b. format of material:
 - ☐ in written format
 - ☐ in computer readable form
 - c. time of filing/furnishing:
 - ☐ contained in the international application as filed.
 - ☐ filed together with the international application in computer readable form.
 - ☐ furnished subsequently to this Authority for the purposes of search.
3. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
4. Additional comments:

**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY**

International application No.
PCT/US2005/031688

Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes: Claims	1-40
	No: Claims	
Inventive step (IS)	Yes: Claims	1-40
	No: Claims	
Industrial applicability (IA)	Yes: Claims	1-40
	No: Claims	

2. Citations and explanations

see separate sheet

Box No. VI Certain documents cited

1. Certain published documents (Rules 43bis.1 and 70.10)

and /or

2. Non-written disclosures (Rules 43bis.1 and 70.9)

see form 210

IAP20 ~~Rejection~~ **01 FEB 2006**

Re Item V.

- 1 Reference is made to the following documents:
D1 : EP 1 253 041 A (NEW VENTURE GEAR, INC) 30 October 2002 (2002-10-30)
D2 : US 2003/092528 A1 (WILLIAMS RANDOLPH C) 15 May 2003 (2003-05-15)
- 2 Document D1, which is considered to represent the most relevant state of the art, discloses (the references in parentheses applying to this document):
 - a selectable mode clutch adapted to selectively couple an input member **(114)** and an output member **(32)**, the selectable mode clutch comprising:
 - a first race **(124)** coupled for rotation with the input member about a central axis, the first race including a first bearing surface having a plurality of axial ridges **(col. 5, lines 43-45)**;
 - a second race **(118)** having a second bearing surface in facing relationship with the first bearing surface, the second bearing surface having a plurality of axial ridges **(130 - col. 5, lines 41-43)**;
 - a plurality of rollers **(134)** positioned between the first and second bearing surfaces, the rollers engaging the axial ridges on the first and second bearing surfaces to radially displace the second race relative to the first race on relative rotation between the first and the second race **(col. 7, lines 52-59)**

From this, the subject-matter of independent claim 1 differs in that:

 - a projection is integrally formed with one of first and second races,
 - a control member is rotatable about the central axis, the control member including a first receiving portion and a second receiving portion, one of the control member and the projection being movable along the central axis relative to the other of the control member and the projection between a first position, in which the projection is positioned in the first receiving portion to operate the clutch in a first mode, and a second position, in which the projection is positioned in the second receiving portion to operate the clutch in a second mode different from the first mode.

- 2.1 The subject-matter of claim 1 is therefore novel (Article 33(2) PCT)
The problem to be solved by the present invention may be regarded as to provide a

clutch with a more accurate, positive control mechanism.

- 2.2 The solution to this problem proposed in claim 1 of the present application is considered as involving an inventive step (Article 33(3) PCT) as it is neither known from nor suggested by the cited prior art.
3. Similarly the subject-matter of independent claim 19 is also considered as being novel and involving an inventive step.
4. Claims 2-18 are dependent on claim 1 and as such also meet the requirements of the PCT with respect to novelty and inventive step.
5. Claims 20-40 are dependent on claim 19 and as such also meet the requirements of the PCT with respect to novelty and inventive step.